



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,946	12/24/2003	Marcos C. Tzannes	T3653-8881US02	9578
181	7590	10/20/2004	EXAMINER: PATHAK, SUDHANSHU C	
MILES & STOCKBRIDGE PC 1751 PINNACLE DRIVE SUITE 500 MCLEAN, VA 22102-3833			ART UNIT 2634	PAPER NUMBER

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/743,946	TZANNES, MARCOS C.	
	Examiner	Art Unit	
	Sudhanshu C. Pathak	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 24th, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 24th, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-to-18 are pending in the application.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 & 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 & 5-6 of U.S. Patent No. 6,748,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Claim 1 of U.S. Patent No. 6,748,016 refers to a method for a transceiver to communicate over a wire in a group of wires comprising receiving communications over a first wire; transmitting over the first wire to produce an electromagnetically coupled signal on the second wire; and conveying a message, by the electromagnetically coupled signal, that induces a response

from a second transceiver connected to the second wire (Claim 1, lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Claim 1 of U.S. Patent No. 6,748,016 discloses all the limitations of the application claim, but also provides further limitation as to the response from the first transceiver due to the electromagnetically coupled signal from the second transceiver. This subject matter is also disclosed in Claim 5 of U.S. Patent No. 6,748,016 (Claim 5, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Claim 1 of U.S. Patent No. 6,748,016 discloses all the limitations of the application claim, but also provides further limitation as to the response from the first transceiver due to the electromagnetically coupled signal from the second transceiver.

Furthermore, in regards to Claims 1 & 5 of the U.S. Patent No. 6,748,016 the broader application claims would have been obvious in view of the narrower issued claims (see *In re Emert*, 124 F.3d 1458, 44 USPQ2d 1149). Further, this subject matter is also disclosed in Claim 6 of U.S. Patent No. 6,748,016 (Claim 6, lines 1-15). Claim 6 of U.S. Patent No. 6,748,016 discloses a communication system, communicating between a first and a second transceiver that are connected to different wires and that are unconnected to each other. The claim also discloses receiving a communication signal over the first wire transmitted from the second transceiver over the second wire due to electromagnetically coupling between the wires and performing an action in response to the a message conveyed by the electromagnetically coupling. Therefore, it would

have been obvious to one of ordinary skill in the art at the time of the invention that even though the claim 6 of U.S. Patent No. 6,748,016 does not disclose the transmission of a message from the first wire and the electromagnetically coupling from the first wire to the second wire to the second transceiver, the claim does teach transmitting and receiving messages between transceivers that are connected to different wires and that are unconnected to each other due to electromagnetic coupling, thus satisfying the limitations of the claim.

4. Claim 2, which is dependent on Claim 1, is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 & 6 of U.S. Patent No. 6,748,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Claim 1 of U.S. Patent No. 6,748,016 discloses all the limitations of the independent claim (Claim 1) of the application as described above. The claim also discloses the conveyed message directs the second transceiver to alter the operation of the first transceiver (Claim 1, lines 11-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Claim 1 of U.S. Patent No. 6,748,016 discloses all the limitations of the application claim, but also provides further limitation of transmitting a second communication in response to the electromagnetically coupled signal from the second transceiver. Furthermore, in regards to Claim 1

of the U.S. Patent No. 6,748,016 the broader application claims would have been obvious in view of the narrower issued claims (see *In re Emert*, 124 F.3d 1458, 44 USPQ2d 1149). This subject matter is also disclosed in Claim 6 of U.S. Patent No. 6,748,016 (Claim 6, lines 6-15). Claim 6 of U.S. Patent No. 6,748,016 discloses a communication system communicating between a first and a second transceiver that are connected to different wires and that are unconnected to each other. The claim also discloses receiving a communication signal over the first wire transmitted from the second transceiver over the second wire due to electromagnetically coupling between the wires and performing an action in response to the a message conveyed by the electromagnetically coupling wherein the response is an adjustment of the transmission parameter, thus altering the operation of the first transceiver.

5. Claims 3, 5 & 11, which are dependent on Claims 1 & 10, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 6 of U.S. Patent No. 6,748,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Claim 6 of U.S. Patent No. 6,748,016 discloses all the limitations of the independent claim (Claim 1) of the application as described above. The claim also discloses the conveyed message requests that the first transceiver make an adjustment to a transmission parameter used to

transmit information over the first wire (Claim 6, lines 10-15). Even though the claim 6 of U.S. Patent No. 6,748,016 does not explicitly disclose coupling either an interference or a message signal, the claim does disclose a communicating between a first and a second transceiver that are connected to different wires and that are unconnected to each other. The claim also discloses receiving a communication signal over the first wire transmitted from the second transceiver over the second wire due to electromagnetically coupling between the wires and performing an action in response to the a message conveyed by the electromagnetically coupling, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention that Claim 6 teaches communicating between wires due to electromagnetically coupling between the wires and the interference signal and / or message signal can be transmitted by either transceiver.

6. Claim 4, which is dependent on Claim 1, is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 2 of U.S. Patent No. 6,748,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Claim 2 of the U.S. Patent No. 6,748,016 which is dependent on Claim 1 of the U.S. Patent No. 6,748,016 discloses all the limitations of the independent claim (Claim 1) of the application as described above. Claim 2 of

the U.S. Patent No. 6,748,016 also discloses that the communication signal has a pre-defined frequency and a pre-defined phase characteristic (Claim 2, lines 1-5). Even though Claim 2 of U.S. Patent No. 6,748,016 is not identical to Claim 4 of the application, the claim teaches that a second signal has a second predefined frequency and a second predefined phase characteristic that are different from the predefined frequency and predefined phase characteristic of the first communication signal, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention that Claim 2 of U.S. Patent No. 6,748,016 discloses all the limitations of the application claim, but also provides further limitation as to the phase and frequency characteristics of the second communication signal.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 2-3 & 5 rejected under 35 U.S.C. 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Regarding to Claim 2, the claim discloses, "the conveyed message directs the second transceiver to alter an operation of the second transceiver". However, the specification discloses the first transceiver transmits signals over the first wire that produces the interference on the second wire. The second transceiver

detects the interference on the second wire and transmits the communication signal over the second wire that is electromagnetically coupled to the first wire. This electromagnetically coupled signal conveys a message to the first transceiver that induces a response from the first transceiver. The message directs the first transceiver to take an action that adjusts the produced interference (Abstract, lines 5-11 & Fig. 1, elements 2, 6, 10, 15, 14, 19 & Specification, Pages 7-9, Paragraphs 20-22).

Therefore, the claim should be changed to "the conveyed message directs the second transceiver to alter an operation of the first transceiver".

10. Regarding to Claim 3, the claim discloses, "the conveyed message requests that the second transceiver make an adjustment to a transmission parameter used to transmit information over the second wire". However, the specification discloses the first transceiver transmits signals over the first wire that produces the interference on the second wire. The second transceiver detects the interference on the second wire and transmits the communication signal over the second wire that is electromagnetically coupled to the first wire. This electromagnetically coupled signal conveys a message to the first transceiver that induces a response from the first transceiver. The message directs the first transceiver to take an action that adjusts the produced interference (Abstract, lines 5-11 & Fig. 1, elements 2, 6, 10, 15, 14, 19 & Specification, Pages 7-9, Paragraphs 20-22).

Therefore, the claim should be changed to "the conveyed message requests that the first transceiver make an adjustment to a transmission parameter used to transmit information over the first wire".

11. Regarding to Claim 5, the claim discloses, "detecting interference on the communications received over the first wire, and wherein the transmitting of the communication signal occurs in response to detecting the interference".

However, the specification discloses the first transceiver transmits signals over the first wire that produces the interference on the second wire. The second transceiver detects the interference on the second wire and transmits the communication signal over the second wire that is electromagnetically coupled to the first wire. This electromagnetically coupled signal conveys a message to the first transceiver that induces a response from the first transceiver. The message directs the first transceiver to take an action that adjusts the produced interference (Abstract, lines 5-11 & Fig. 1, elements 2, 6, 10, 15, 14, 19 & Specification, Pages 7-9, Paragraphs 20-22). The interference is received on the second wire.

12. Claims 15 & 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention

13. Regarding to Claims 15 & 16, disclose "adjustment changes time increments used to transmit signal over the first wire" as the transmission parameter in response to message conveyed by the electromagnetically coupled communication signal. It is not clear what is meant by "the adjustment changes in the time increments used to transmit signals" i.e. does it mean the time at which the signal is transmitted over the first wire is adjusted and how does this prevent interference in the second wire or the duration of the signal transmitted over the first wire.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-9, 10-14 & 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (6,339,613).

Regarding to Claims 1 & 10, Terry provides a method for use by a transceiver (modem) to communicate over a group of wires in telephone cables used for providing telephone service and additional communicational services, for example for data communications and computer network connections (Column 1, lines 10-17 & 20-30). Terry further discloses a communications system consisting of multiple

transmission lines (Fig. 1, elements 10, 16, 22), connecting multiple transceivers (Fig. 1, elements 12, 14, 18, 20). Terry also describes a communication scenario whereby a transceiver (Fig. 1, element 20) receiving downstream signals over a first wire (Fig. 1, element 16), transmitted by transceiver (Fig. 1, element 18) over the same wire (Fig. 1, element 16), further this communication signal electromagnetically couples (Fig. 1, elements 24 & 26) to a second wire (Fig. 1, element 10), this signal conveys a message and induces the second transceiver (Fig. 1, element 12) to respond to the coupled signal, by computing the power spectral density of the coupled signal (Column 6, lines 22-35).

Regarding to Claims 2, 3 & 11, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals as described above. Terry also discloses the coupled message signal directs the second transceiver (Fig.1, element 12) to alter its operation by adjusting the PSD of its transmitted signal to avoid coupling with the upstream data received by another adjacent transceiver (Fig. 1, element 18) (Column 6, lines 25-42).

Regarding to Claim 4, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals as described above. Terry also discloses an ADSL application whereby the downstream and upstream communication signals have a defined transmission frequency bands respectively (Column 5, lines 18-27), and the coupling signal spectra is compared with the stored templates of the power spectra for various systems, suitably modified to take into account the known frequency characteristics of the twisted pair cable

and the type of communications system contributing to the coupling (column 6, lines 1-8).

Regarding to Claims 5 & 17, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals and adjustment of the transmitting parameter used to transmit information as described above. Terry also discloses that even though the example provided in the reference has transceivers (Fig. 1, elements 12 & 14) not in transmission mode and only monitoring, this need not necessarily be the case (Column 6, lines 55-57). Terry further describes a scenario whereby transmitting downstream on a first wire (Fig. 1, element 16), while simultaneously transmitting upstream on another wire (Fig. 1, element 10) (Column 6, lines 57-67 & Column 7, lines 1-7). In this scenario transmitting upstream from (Fig. 1, element 14), will cause electromagnetic coupling of interference from the second wire (Fig. 1, element 10) to the first wire (Fig. 1, element 16) while the transceiver (Fig. 1, element 20) simultaneously receives downstream data from transceiver (Fig. 1, element 18). The transceiver (Fig. 1, element 20) can compute the PSD of the interfering signal since the frequency of the upstream and downstream are different and the PSD of the downstream signal is known, and then in response transmit an upstream data (signal) so as not to interfere with transceiver (Fig. 1, element 14). Terry further discloses an example of the method used in the transmission of a message in response to detecting an interference signal in an Ethernet communications system of known form (Fig. 4, elements 96, 97, 98, 87 & Column 11, lines 38-60).

Regarding to Claims 6, 7 & 12-14, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals and adjustment of the transmitting parameter used to transmit information as described above. Terry also discloses a method for determining the power spectral density (PSD) of the coupled signal, comprising of storing the PSD templates for the various communications systems, monitoring the monitored PSD with the stored PSD to identify the communications system corresponding to the monitored PSD (column3, lines 22-32). This enables the transceiver to adjust its PSD from the transmitter to the transmission path to be adjusted to reduce the overlap of another system (column 3, lines 32-38). Terry further discloses in the Ethernet communications system described, consisting of the method to eliminate interference, that if the interference is not detected the system does not send a message to alter the PSD of the transceivers, this is done by the spectral compatibility manager (SCM) (Fig. 2, element 42) (Column 9, lines 30-33 & 37-45 & 61-65).

Regarding to Claims 8 & 18, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals and adjustment of the transmitting parameter used to transmit information as described above. Terry also discloses that due to the proximity of the transmission lines (Fig. 1, elements 10, 16) crosstalk can occur between lines (Column 4, lines 41-42). Terry further describes crosstalk to be signals on one transmission line that are coupled to some extent to the other line depending on numerous factors such as

physical characteristics of the wires, power levels and frequencies (power spectral density) (Column 4, line 43-47). Terry further explains the existence of both near-end and far-end crosstalk that can act as interference in the cable wires (Column 5, lines 1-17).

Regarding to Claim 9, Terry discloses a method for a transceiver to communicate over a wire in a group of wires using coupled electromagnetic signals and adjustment of the transmitting parameter used to transmit information as described above. Terry discloses a method for reducing interference on a wire adjacent to the one transmitting the data. Terry further describes an example whereby the monitoring transceivers (Fig. 1, elements 12 & 14) on the second wire compute the power spectral density and adjust the transmitted signal so as to minimize noise interference on the transceivers (Fig.1, elements 18 & 20) on the first wire (Column 5, lines 49-67 & Column 6, lines 9-20).

Conclusion

16. The prior art made of record and not relied upon are considered pertinent to applicant's disclosure.


17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)-272-3056

Art Unit: 2634

- The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak



STEPHEN CHIN
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2800